

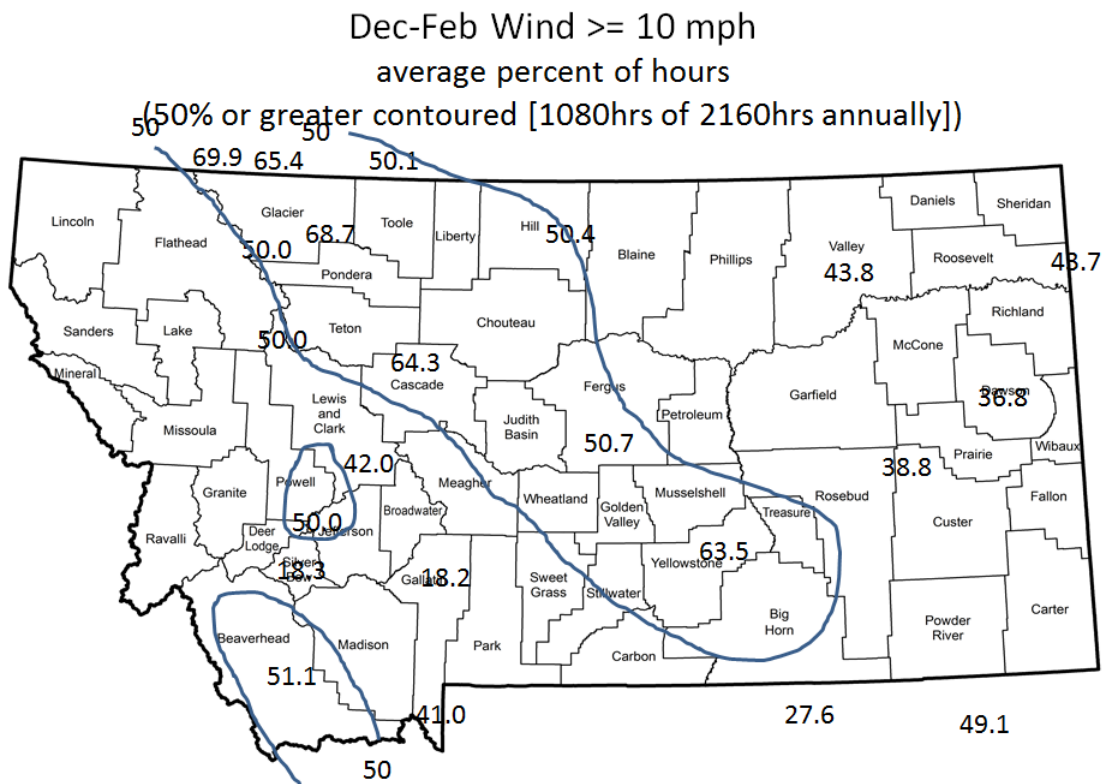
## 12 Wind Chill

### 12.1 General Description

Wind chill can occur in any season. The season in which it is most critical is during the winter season.

### 12.2 Wind Chill climatology

Following is a series of wind chill climatology maps for Montana.



Dec-Feb Wind Chill  $\leq -20^{\circ}\text{F}$  with  $\geq 10$  mph wind  
 average percent of hours  
 (contours at 7% and 10% [216hrs of 2160hrs annually])

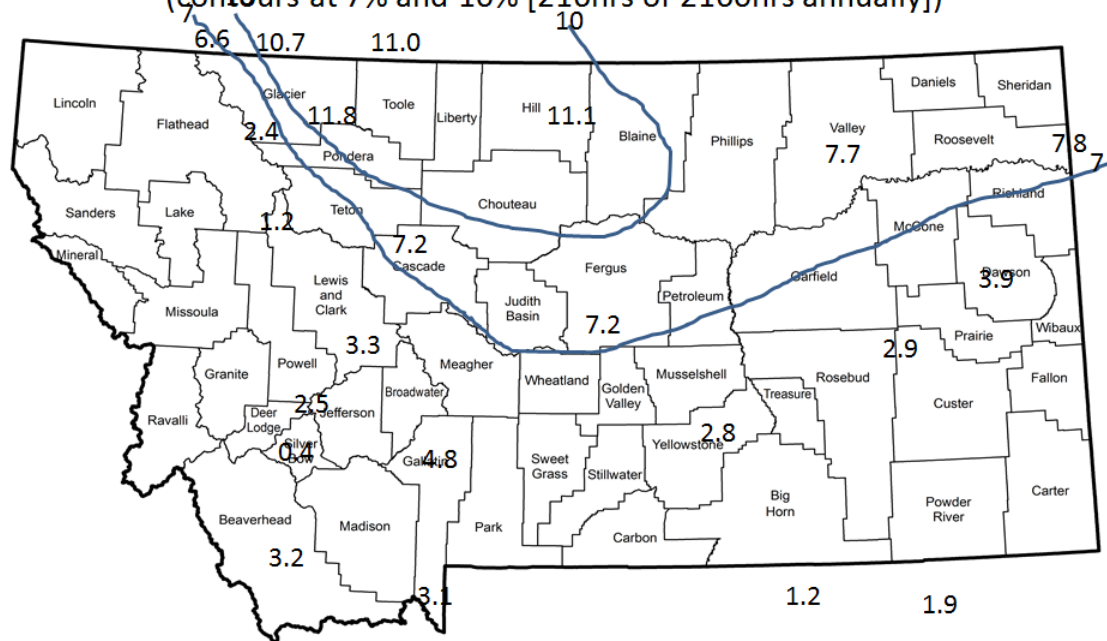


Figure 12.2. Areas where the wind chill is less than  $-20^{\circ}\text{F}$  with winds of 10 mph or greater. Areas with at least 150 hours per season (7%) stretch from the Rocky Mountain Front to the North Dakota border.

Dec-Feb Wind Chill  $\leq -25^{\circ}\text{F}$  with  $\geq 10$  mph wind  
 average percent of hours  
 (contour at 5% [108hrs of 2160hrs annually])

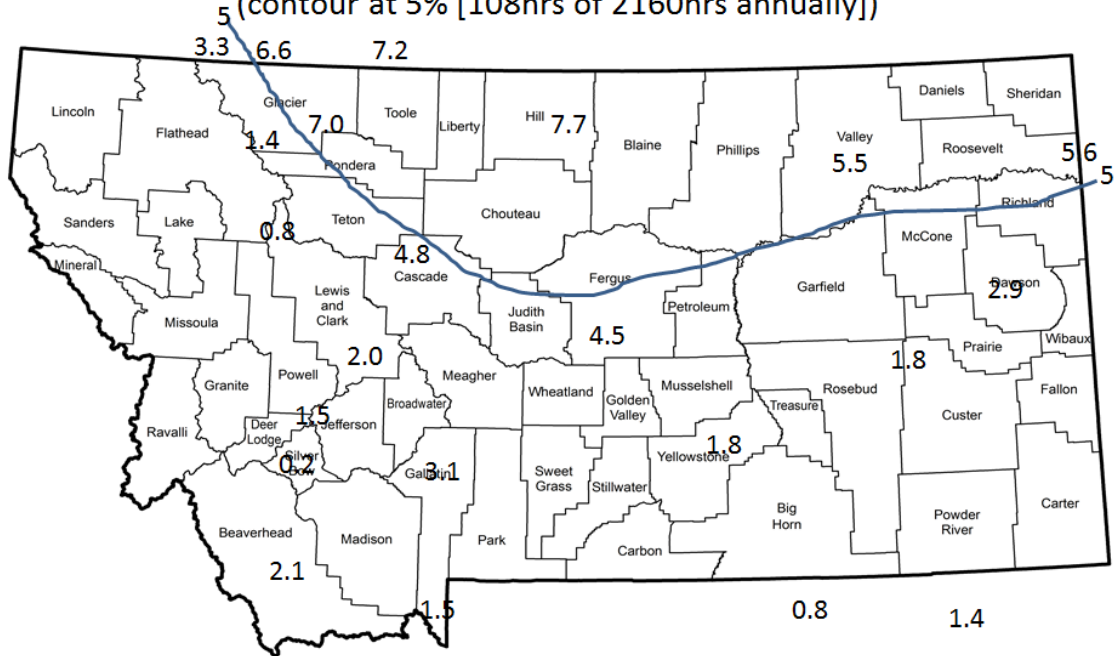


Figure 12.3. Areas where the wind chill is less than  $-25^{\circ}\text{F}$  with winds of 10 mph or greater. Areas with at least 108 hours per season (5%) stretch from the Rocky Mountain Front to the North Dakota border.

Dec-Feb Wind Chill  $\leq -30^{\circ}\text{F}$  with  $\geq 10$  mph wind  
 average percent of hours  
 (contours at 3% and 5% [108hrs of 2160hrs annually])

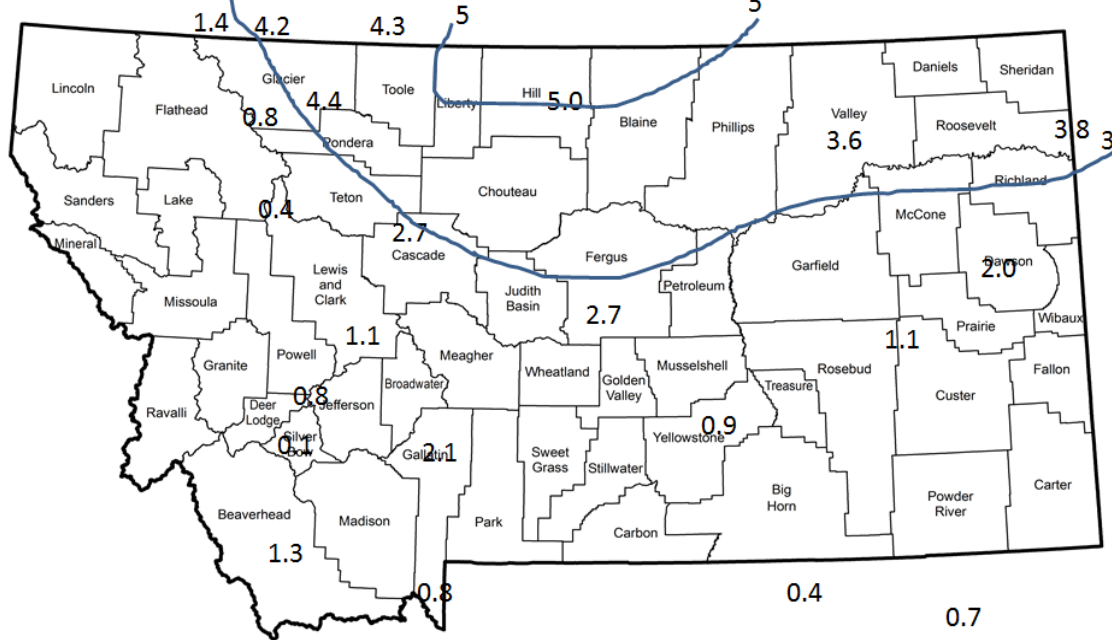


Figure 12.4. Areas where the wind chill is less than  $-30^{\circ}\text{F}$  with winds of 10 mph or greater. Areas with at least 65 hours per season (3%) and 108 hours (5%) stretch from the Rocky Mountain Front to the North Dakota border.

Dec-Feb Wind Chill  $\leq -40^{\circ}\text{F}$  with  $\geq 10$  mph wind  
 average percent of hours  
 1 (contour at 1% [22hrs of 2160hrs annually])

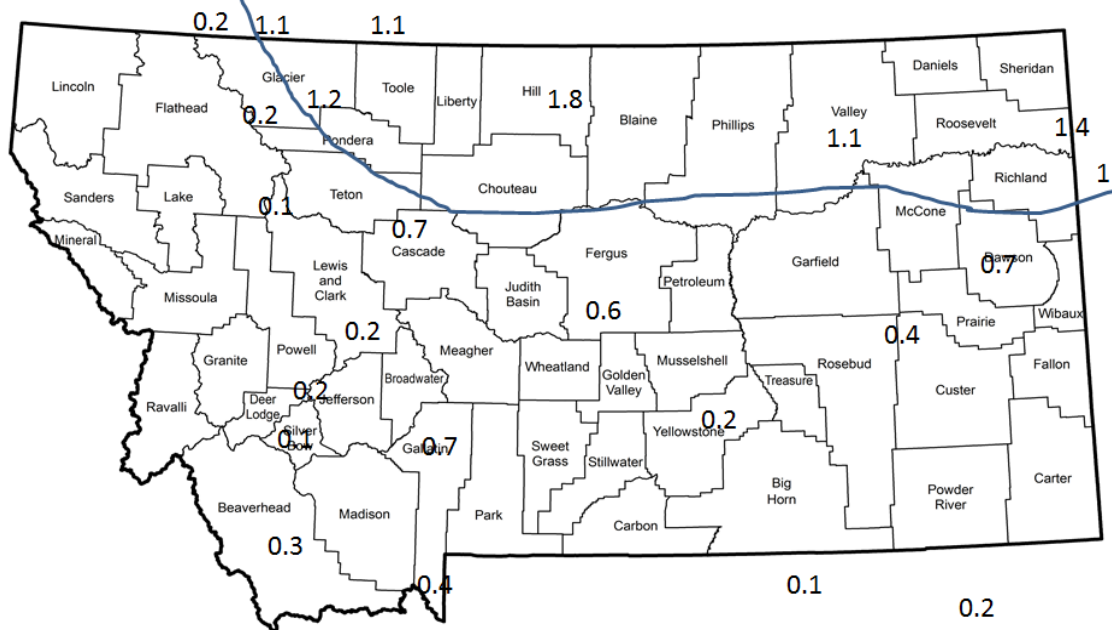


Figure 12.5. Areas where the wind chill is less than  $-40^{\circ}\text{F}$  with winds of 10 mph or greater. Areas with at least 22 hours per season (1%) stretch from the Rocky Mountain Front to the North Dakota border.

Dec-Feb Average Wind Chill and value of  
[the average WC minus 2 times the Standard Deviation]  
(contours -20, -25 and -30F)

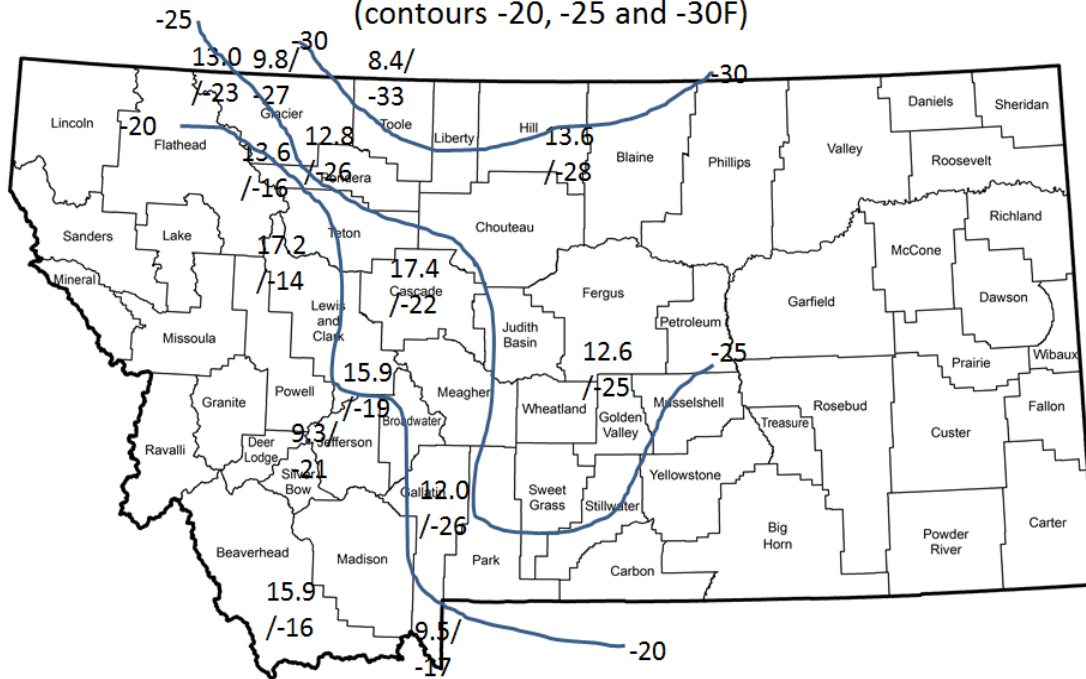


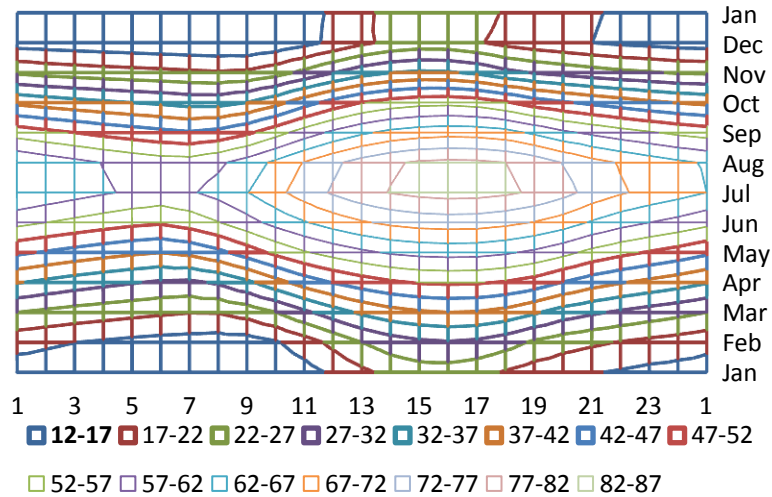
Figure 12.6. The average winter wind chill (Dec-Feb) with a value twice the standard deviation plotted.

Table 12.1 Extreme wind chills in Montana (°F)

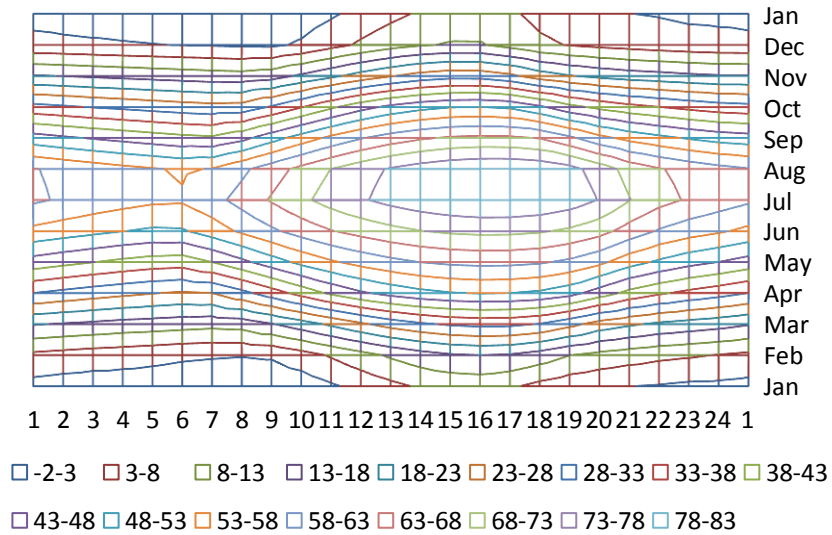
Bozeman	-80.9
Cut Bank	-58.3
Dillon	-55.3
Elk Park	-61.1
Great Falls	-63
Havre	-68.5
Helena	-52.3
Lewistown	-64
Two Medicine	-52.2
West Yellowstone	-59.5

## 12.3 Mean Hourly Wind Chill values

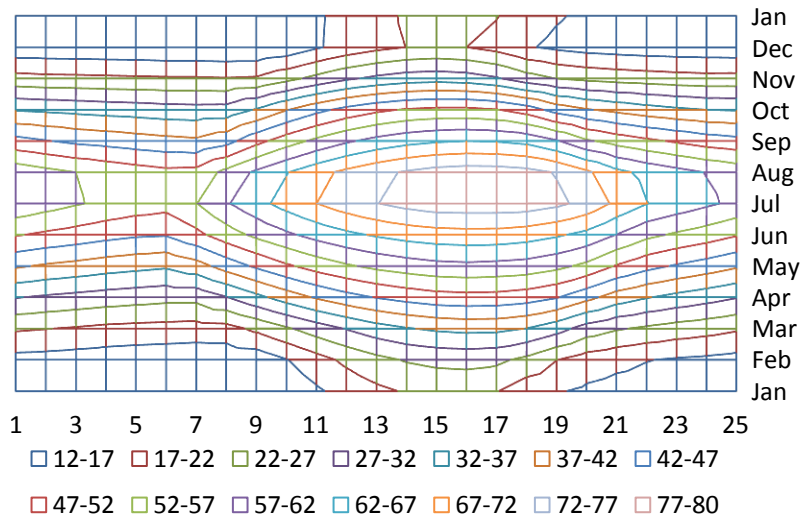
**Billings Mean Hourly Wind Chill (1981-2010)**



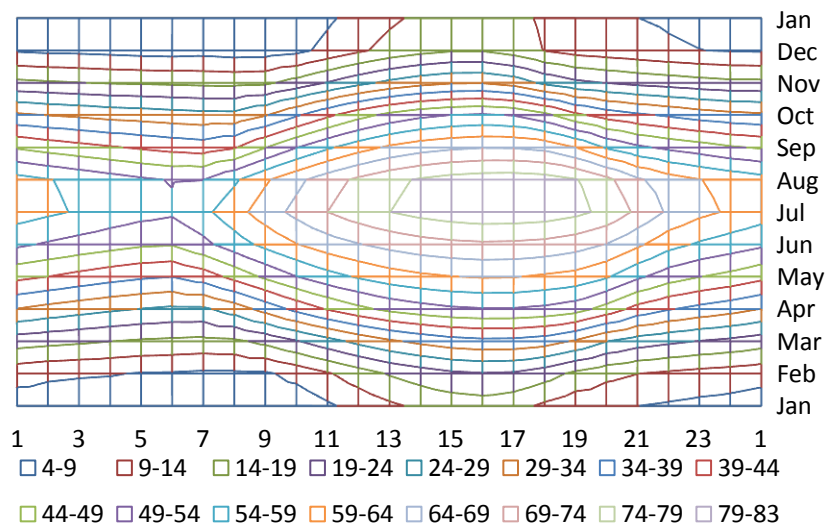
**Glasgow Mean Hourly Wind Chill (1981-2010)**



### Great Falls Mean Hourly Wind Chill (1981-2010)

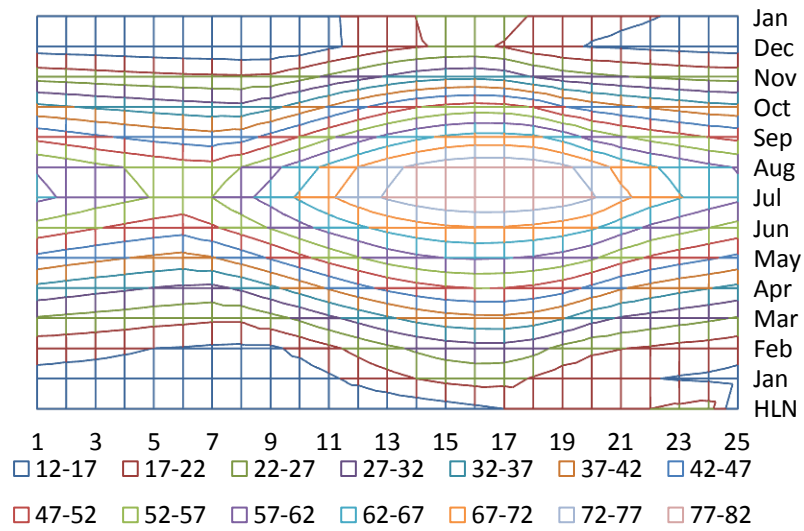


### Havre Mean Hourly Wind Chill (1981-2010)

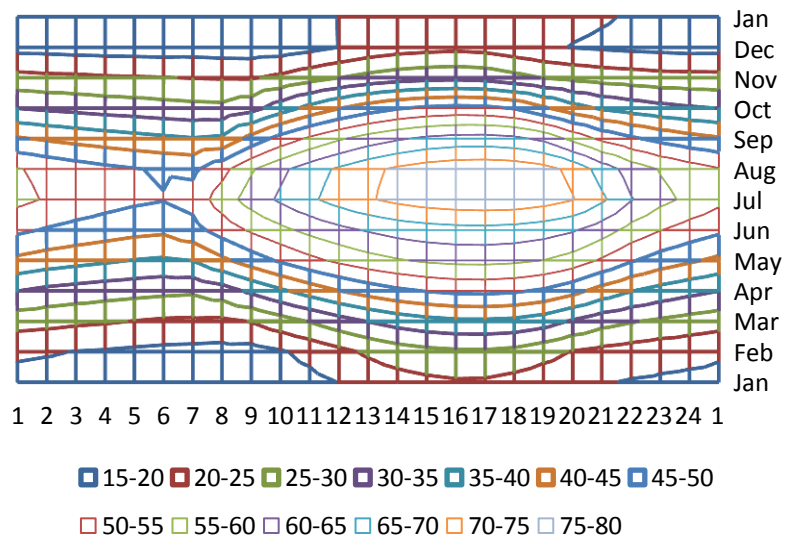




### Helena Mean Hourly Wind Chill (1981-2010)



### Kalispell Mean Hourly Wind Chill (1981-2010)



### Missoula Mean Hourly Wind Chill (1981-2010)

